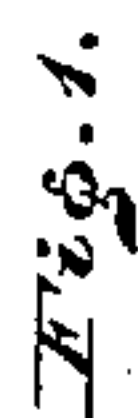


2 Sheets—Sheet 1.

Patented June 26, 1883.



A. P. Grant,
W. F. Fisher



INVENTOR:
George Millerstedt
BY John A. Giedersheim ATTORNEY.

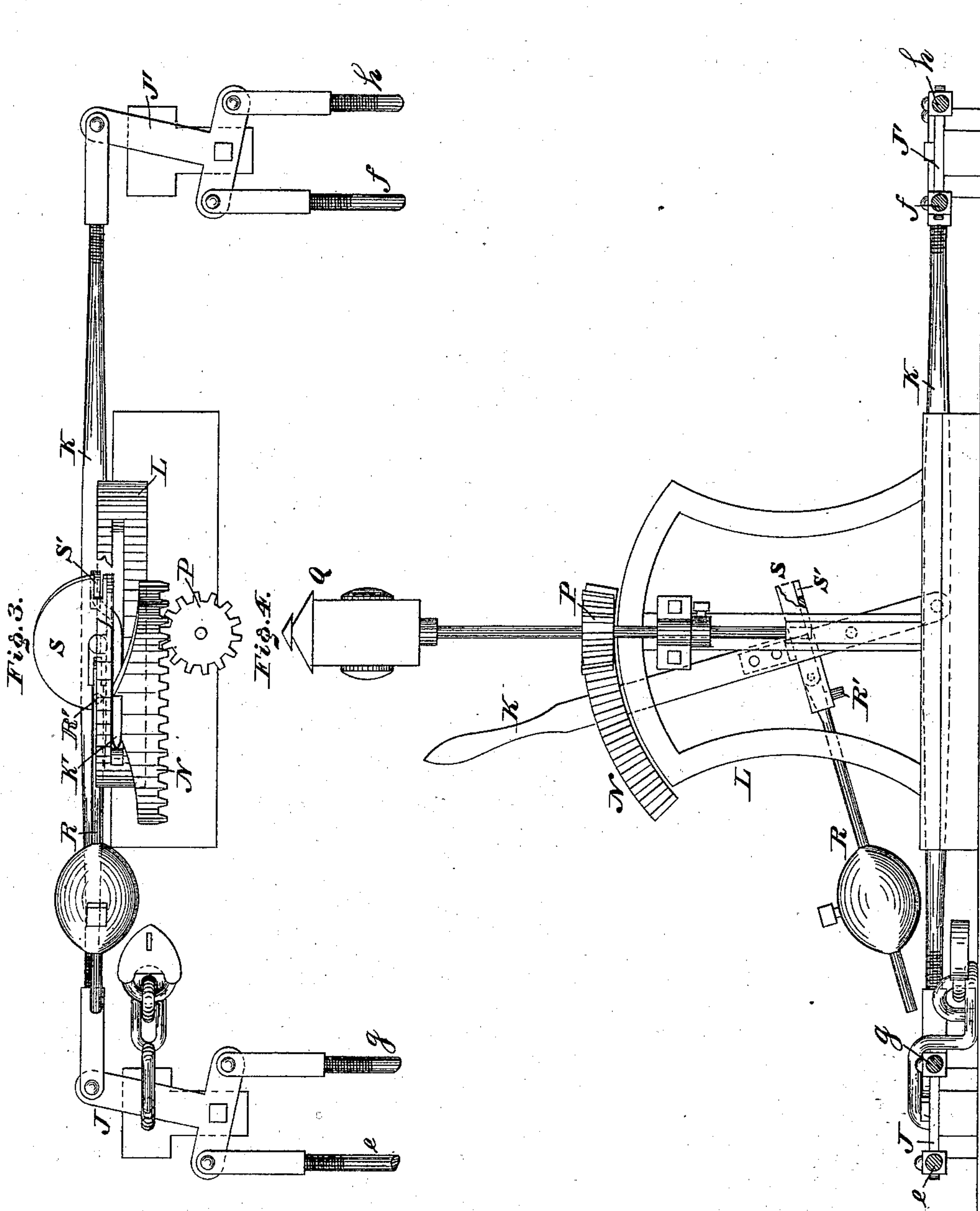
(No Model.)

2 Sheets—Sheet 2.

G. MILLERSTEDT.
RAILWAY SWITCH.

No. 280,215.

Patented June 26, 1883.



WITNESSES:

A. P. Brant,
H. F. Kirchen

INVENTOR:

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UNITED STATES PATENT OFFICE.

GEORGE MILLERSTEDT, OF PHILADELPHIA, PENNSYLVANIA.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 280,215, dated June 26, 1883.

Application filed January 2, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE MILLERSTEDT, a subject of Prussia, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Railroad-Switches, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figures 1 and 2 are top or plan views of a switch embodying my invention in different positions. Fig. 3 is a top view of a portion thereof. Fig. 4 is a side elevation thereof.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of a railroad-switch adapted for crossings, whereby the cars may pass over the crossings without change of direction or be switched from one track to the other track, as will be hereinafter set forth.

Referring to the drawings, A A' and B B' represent railroad-rails constituting two tracks which cross each other; and C C' represent the frogs, which are located at the place of crossing of said tracks.

D represents a curved rail in the length of the rail A, and D' represents a curved rail in the direction of the rail B'.

E E' represent switch-rails which radiate in opposite directions from the frog C, and F F' represent switch-rails which also radiate in opposite directions from said frog C, it being furthermore noticed that the rails E E' and F F' are on opposite sides of said frog C.

G G' represent switch-rails which radiate in opposite directions from the frog C', and H H' represent switch-rails which also radiate in opposite directions from said frog C', it being noticed that the rails G G' and H H' are on opposite sides of said frog C'. The rails E G, forming a pair, are connected by one or more bars, *a*, and move as one. The rails E' G', forming a pair, are connected by one or more bars, *b*, and move as one. The rails F H, forming a pair, are connected by one or more bars, *c*, and move as one. The rails F' H', forming a pair, are connected by one or more bars, *d*, and move as one, it being seen that there are four pairs of switch-rails, two pairs at opposite ends of the frogs C C', whereby when one moves to the right the other pair moves to the left.

To one of the bars *a*, or the rails E G, is

secured a rod, *e*, and to one of the bars *b*, or the rails E' G', is secured a rod, *f*. To one of the bars *c*, or rails F H, is secured a rod, *g*, and to one of the bars *d*, or rails F' H', is secured a rod, *h*.

J J' represent T or double-elbow levers, which are suitably pivoted to the bed of the road, outside of the tracks and near the rail D. To the opposite ends of the head of the lever J are pivoted the rods *e g*, and to the opposite ends of the head of the lever J' are pivoted the rods *f h*, the two levers being connected by a sliding bar, K, which is supported on the road-bed or base of the switch-stand L, said bar K being operated by a suitable hand-lever, K', on said stand L, whereby motion may be communicated to the levers J J', and consequently to the connected rods *e g f h* and connected switch-rails.

Adjacent to the points of the rails F G is a frog, M, and adjacent to the points of the rails F' G' is a frog, M', and suitable guards are applied at proper places.

When the switch is set as in Fig. 1, the cars on the track A A' may cross the track B B' in either direction, (see arrows 1,) and the cars on the track B B' may cross the track A A' in either direction, (see arrows 2,) the switch-rails E H' being in communication with the rails A A', and the switch-rails E' H in communication with the rails B B'.

When it is desired to change the switch, whereby the cars may be shifted from the track A A' to the track B B', and vice versa, the switch-lever K' is moved, thus operating the bar K, levers J J', and connecting-rods *e g f h* and setting the switch-rails to the position shown in Fig. 2, the four pairs or sets of switch-rails being simultaneously operated. It will now be seen that the cars coming in the direction of arrow 3 on the track A A' will run over the rail D, switch-rails G G', and frog C', and thus reach the track B B', it being evident that the cars coming in the direction of arrow 3' will reach the track A A' over a similar course. The cars running in the direction of arrows 4 on the track B B' will run over the rail D', switch-rails F F', and frog C', and thus reach the track A A', it being evident that the cars coming in the direction of arrow 4' will reach the track B B' over a similar course.

When the switch is again shifted to the position shown in Fig. 1, the tracks A A' on opposite sides of the switch are in communication, and the tracks B B' on opposite sides of the switch are also in communication.

The switch-lever K has secured to it a segmental rack, N, which gears with a pinion, P, to the shaft of which is secured a signal or signal-lamp, Q, (shown in dotted lines, Fig. 1,) whereby the motion of said lever or bar in shifting the switch also turns the signal and indicates the position of the switch. A weighted arm, R, provided with pin R', is also pivoted to a plate, S, secured to the lever K and adapted to be swung around in order to engage, by means of the pin R', with one of the notches S' on opposite sides of the horizontal plate S, thus temporarily locking the bar K, and consequently the movable parts of the switch, and suitable locks will be provided for preventing tampering with the switch or operation thereof by unauthorized persons.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The four pairs of connected switch-rails, in combination with their four rods and the actuating devices whereby the said pairs of rails are operated reversely and simultaneously, substantially as set forth.

2. The connected rails E G F H E' G' F' H' and attached rods *e f* and *g h*, operated in reverse order, combined and operating substantially as and for the purpose set forth.

3. The switch-rails E G F H E' G' F' H', in combination with the connecting-rods *e f* and *g h*, elbow-levers J J', and operating-lever K, substantially as and for the purpose set forth.

4. The switch-rails and the operating-lever K, in combination with the rack and pinion N P and signal, substantially as and for the purpose set forth.

5. The switch-rails and the operating-lever K, in combination with the weighted swinging lever R and notched plate S, substantially as and for the purpose set forth.

GEORGE MILLERSTEDT.

Witnesses:

JOHN A. WIEDERSHEIM,
A. P. GRANT.